

**REMARKS**

In the Office Action, claims 1-13 were rejected. By the present Response, claim 1 is amended. Furthermore, claims 31-43 are added. Upon entry of the amendments, claims 1-13 and 31-43 will be pending in the present patent application. Reconsideration and allowance of all pending claims is requested.

In the Office Action, the Examiner objected to claim 1. Claim 1 has been amended by the present Response to obviate this objection. Reconsideration and withdrawal of the objection is requested.

**Rejection Under 35 U.S.C. § 102**

The Examiner rejected claims 1-13 as being anticipated under 35 U.S.C. § 102(b). Specifically, Examiner rejected claims 1-13 as being anticipated by Smith (U.S. Patent 6,008,982; hereinafter “Smith”). Applicants respectfully traverse this rejection.

**Smith fails to teach conductive bus elements that “define electrical reference planes” capable of reducing parasitic inductance.**

With respect to independent claims 1, 6, and 11 the Examiner cited Smith as anticipatory. Claims 1, 6, and 11 recite “a first conductive bus element *defining a first electrical reference plane...*” and “a second conductive bus element *defining a second electrical reference plane...*”. (Emphasis added). Additionally, claims 1, 6, and 11 recite “wherein the first and second bus elements extend generally in parallel between the respective terminals *to reduce parasitic inductance during operation.*” (Emphasis added). Because these features are not disclosed by Smith, the cited reference cannot anticipate the present claims.

Smith does not define whether the bus subassemblies constitute electrical reference planes. Similarly, Smith does not mention whether its electrical bus

configuration would reduce parasitic inductance. As noted by the Examiner in the Office Action, Smith discloses parallel conductive bus subassemblies. See, e.g., Figs. 1, 20, 21, 22, 23, and 24. However, neither the drawing of these bus subassemblies nor their description demonstrates whether the parallel conductive bus subassemblies establish an electrical reference plane. From the description of these subassemblies, it is simply impossible to say at what potential or potentials they would be placed in operation. At the very least one would expect several different circuits or potentials, otherwise the structure would include only the two subassemblies (e.g. power and ground). Smith simply fails to teach or disclose whether electrical reference planes are established by the conductive bus subassemblies as recited in independent claims 1, 6, and 11.

The instant claims define two electrical reference planes parallel to one another in order to cancel parasitic inductance. However, because Smith fails to disclose electrical reference planes, the reference also fails to suggest its bus assembly would reduce parasitic inductance, as also recited in the instant claims. Smith does not disclose the potentials across the bus subassemblies or how those potentials are disposed or distributed. Accordingly, Smith provides no teaching as to how the subassemblies should be disposed (e.g., according to the potential at which they are placed) to reduce inductance. None of the subassemblies appears to define a reference plane. Similarly, having more than two parallel bus subassemblies, as shown in fig. 1, would not effectively cancel parasitic inductance. Reduction of the overall inductance of the bus is an important feature of the instant claims. In contrast, Smith is generally directed “to provide an electrical distribution center having one or more bus assemblies that are economical...and that require very little vertical space.” Smith, Col. 2 lines 7-10. Therefore, Applicants respectfully request the withdrawal of the rejection and allowance of independent claims 1, 6, and 11.

**Smith fails to teach conductive bus elements that extend “substantially contiguously” between the terminals.**

Additionally, independent claims 1, 6, and 11 recite that both the first and second conductive bus elements extend “substantially contiguously” between the terminals. In addition to defining electrical reference planes as noted above, the bus elements extend generally along one another for canceling parasitic inductance. This additional feature is missing from Smith.

Smith relates generally to the vertical stacking of bus subassemblies. Smith teaches bus subassemblies stamped from sheet metal with many cut-outs or holes, exposed portions without an insulating layer, and portions bent up perpendicularly to the planar bus portions. See *e.g.*, *id.* at col. 4. The purpose of which is to allow the vertical stacking of elements. *Id.* at col. 2 lines 9-11. The figures referred to by the Examiner in the Office Action also show representative bus elements with many cut outs, exposed portions, and portions bent up perpendicularly. *See e.g.*, figs. 1-4.

Smith does not teach or suggest conductive bus elements that extend “substantially contiguously” between the terminals as recited by independent claims 1, 6, and 11. Again, in contrast, Smith discloses bus subassemblies with a series of cut-outs, exposed portions, and portions bent perpendicular to a sheet. *Id.* As noted above, the bus elements of the instant claims extend “substantially contiguously” between the terminals to cancel parasitic inductance. Having gaps and portions missing insulation along the bus elements would not tend to cancel parasitic inductance and at the very least, such structures do not extend “substantially contiguously.” In view of these deficiencies, Smith cannot anticipate independent claims 1, 6, and 11. Applicants respectfully request the withdrawal of the rejection and allowance of independent claims 1, 6, and 11.

**Smith fails to teach an electrical bus system that is “coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit.”**

Lastly, independent claims 1, 6, and 11 recite that the conductive bus elements are “coupled directly to the power electronic switching circuitry and the terminals for the energy storage or filtering circuit.” (Emphasis added). Again, these features are not disclosed by Smith.

The conductive bus elements described by Smith are not coupled directly to power electronic switching circuitry and to terminals for energy storage or filtering circuits as recited by the instant claims. Referring to figure 1, Smith recites, *inter alia*,

an electrical distribution center provides an electrical interconnect between *electrical and electronic devices such as mini-fuses, maxi-fuses, and relays* that are plugged into the top of a housing of the electrical distribution center and *electrical connectors of electrical wiring harnesses* that are plugged into socket connectors in the bottom of the housing....Such circuit components are typically used in primary high voltage circuits.

Smith, col. 2, lines 57-63; Col. 3, lines 28-30. (Emphasis added). The figures referred to by the Examiner also do not disclose bus subassemblies coupled directly to power electronic switching circuitry nor to terminals for energy storage or filtering circuits. Indeed, none of the devices enumerated by Smith could be remotely considered energy storage or filtering circuits.

Smith fails to teach or disclose any coupling or connection to electrical devices recited in the instant claims. Again, the electrical bus system described in Smith is connected to electrical devices such as “mini-fuses, maxi-fuses, and relays” or “wiring harnesses” and “are typically used in primary high voltage circuits.” *Id.* These devices are very different from “power electronic switching circuitry” and “terminals for energy

storage or filtering circuits.” These devices described in the instant claims are typically used for “converter-converter circuits, generator circuits, [and] power conditioning circuits.” Application, page 4, line 29. Indeed, it is by virtue of such connections that the claimed elements can define electrical planes in which parasitic inductance is reduced. Consequently, Smith cannot support a *prima facie* case of anticipation. Accordingly, Applicants respectfully request the withdrawal of the rejection and allowance of independent claims 1, 6, and 11.

Additionally, claims 2-5, 7-10, and 12-13 each depend from one of independent claims 1, 6, or 11. Applicants respectfully contend that these claims are allowable based on their dependency from an allowable independent claim, as well as for the subject matter separately recited by each of these dependent claims. Applicants, therefore, also respectfully request allowance of these dependent claims.

### **New Claims**

By the present Response, new claims 31-43 are added. The new claims include three new independent claims 31, 36, and 41. The claims relate to electrical bus systems similar to those outlined in the preceding claims. Claims 31, 36, and 41 specify that the electrical bus system is coupled to and disposed along the edge of a support.

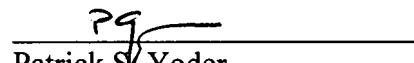
The new claims are believed to be patentable for at least the same reasons as the foregoing claims discussed above. Accordingly, their consideration and allowance is requested.

**Conclusion**

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Date: 6/15/2007

  
Patrick S. Yoder  
Reg. No. 37,479  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281) 970-4545

**CORRESPONDENCE ADDRESS**  
ROCKWELL AUTOMATION, INC.  
Patent Department/704P Floor 8 T-29  
1201 South Second Street  
Milwaukee, Wisconsin 53204  
Attention: Susan M. Donahue  
Phone: (414) 382-2000